ATOMIC ENERGY EDUCATION SOCIETY
Anushaktinagar, Mumbai – 400094.
SUMMATIVE ASSESSMENT – 2 (2016-17)

CLASS: VIII **Time: 2½ hours**
Date: 8.3.2017 **SUB: MATHEMATICS** **Max.Marks:90**

Instructions

1. This paper consists of 4 sections.
2. Section A has 10 Multiple Choice Questions and each question carries 1 mark.
3. Section B has 10 Questions and each question carries 2 marks.
4. Section C has 10 Questions and each question carries 3 marks.
5. Section D has 6 Questions and each question carries 5 marks.
6. Use of calculator is not permitted.

SECTION-A **(10 x 1 = 10)**

1. Choose the correct answer from the alternatives given below:

i) What is the percentage of 5 apples out of 25 fruits?

a) 20% b) 25% c) 40% d) 80%

ii) If an article was sold for Rs. 174, then there is loss of 25%.

Which of the following is its cost price?

a) Rs. 200 b) Rs. 240 c) Rs. 232 d) Rs. 235

iii) The value of 5 at x = 1 is

a) 0 b) 4 c) 1 d) 45

iv) is equal to

a) b) c) d) 0

v) The HCF of , and is

a) b) c) 3 d)

vi) If the base of a pyramid is a polygon of 'n' sides, then which of the following is the number of faces of the pyramid?

a) n-1 b) n c) n+1 d) n+2

vii) 5 taps can fill an empty tank in 2 hrs. How long will it take to fill an empty tank if 3 taps are not operating?

a) 5 hrs b) 2 hrs c) 4/5 hr d) none of these

viii) Which of the following points lie on the x-axis?

a) (0, 2) b) (2, 0) c) (0,-2) d) (-2,-3)

ix) – is equal to

a) 81/48 b) 81/169 c) 169/81 d) 16/81

x) If the base area of cuboidal tank is 0.85 m^2 and the volume of water in the tank is 6.8 m^3, then the depth of water in the tank is -

a) 5m b) 6m c) 8m d) 9m

SECTION – B (10 x 2=20)

(Questions 2 to 11 carry 2 marks each)

2. 20.5 metres of silk costs Rs. 1025. How many metres of silk can be bought for Rs. 750?

3. Find the volume of a cuboid whose length is 2pq, breadth is 3xy and height is 3xp.

4. A polyhedron has 20 vertices and 30 edges. How many faces does it have?

5. Expand: $(4x - 3y)^2$

6. Evaluate: ÷

7. The price of an article was Rs. 4500 last year. It has increased by 20% this year. What is the price now?

8. Factorise: $63a^2 - 112b^2$

9. After giving a discount of 5% an item is sold for Rs.190. What is its marked price?

10. Factorise and divide:

$$8 (x^3y^2z^2 + x^2y^3z^2 + x^2y^2z^3) \div 4x^2y^2z^2$$

11. Two identical cubes each of total surface area 6 cm^2 are joined end to end. Find the total surface area of the cuboid so formed.

SECTION – C (10 x 3=30)

(Questions 12 to 21 carry 3 marks each)

12. A machine was bought for Rs. 16000. If the total cost of it is depreciating at the rate of 5% per annum, calculate its value after two years.

13. Simplify: $(a + b) (c - d) + (a - b) (c + d) + 2 (ac + bd)$

14. If $x + y = 12$ and $xy = 14$, find the value of x^2+y^2.

15. The area of a rhombus and square are equal. The side of the square is 6 cm. If one of the diagonals of the rhombus is 4 cm, find the length of its other diagonal.

16. i) Express the following numbers in standard form.

a) 0.0000001275 b) 5050000000

ii) Express 3.6149 x in usual form.

17. Find m so that ——————

18. Draw a line passing through the points (1, 4) and (4, 1). Find the coordinates of the point at which the line meets the x-axis and y-axis.

19. Factorise: i) $(y-x) a + (x-y) b$

ii) $4x^2 + 9y^2 - 25z^2 - 12xy$

20. How many full bags of wheat can be emptied into a circular drum of radius 4.2 m and height 3.5m if the space required for one bag of wheat is 0.21 m^3.

21. Find the amount and compound interest on Rs. 10,000 compounded quarterly for 6 months at the rate of 4% per annum.

SECTION – D (6 x 5=30)

(Questions 22 to 27 carry 5 marks each)

22. Meenu bought two fans for Rs. 1200 each. She sold one at a loss of 5% and the other at a profit of 10%. Find the selling price of each. Also, find out the total profit or loss.

23. i) Simplify:————

ii) Find the value of x if .

24. A closed metallic cylindrical box of 1.25 m height, has base radius of 35 cm. If the sheet of metal cost Rs. 80 per m^2, find the cost of the material used in the box. Also, find the capacity of the box in litres.

25. i) Factorise: 44($- 5a^3 - 24a^2$) and divide by 11a (a – 8).

ii) Using identity, evaluate: $(9982)^2 - 18^2$

26. A train is moving with a uniform speed of 75 km/hr.

i) Find the time required to cover a distance of 250000 m.

ii) How far will it travel in 20 minutes?

27. The following table gives the quantity of petrol and its cost.

No. of litres of petrol	10	15	20	25
Cost of petrol in Rs.	500	750	1000	1250

Draw a graph to represent the given data with suitable scales and answer the question given below.

i) Does the graph pass through the origin?

ii) Use the graph to find how much petrol can be purchased for Rs. 800.

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